OIPE

ENTERED

```
 4 <110> APPLICANT: Dillon, Davin C.
 5         Day, Craig H.
 6         Jiang, Yuqiu
 7         Houghton, Raymond L.
 8         Mitcham, Jennifer L.
 9         Wang, Tongtong
10         McNeill, Patricia D.
11         Harlocker, Susan L.
12         Bennington, Angela Ann
13         Zehentner, Barbara
14         Fanger, Gary R.
15         Retter, Marc W.
20 <120> TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
21         DIAGNOSIS OF BREAST CANCER
24 <130> FILE REFERENCE: 210121.491C7
26 <140> CURRENT APPLICATION NUMBER: US/10/010,742
27 <141> CURRENT FILING DATE: 2001-11-30
29 <160> NUMBER OF SEQ ID NOS: 307
31 <170> SOFTWARE: FastSEQ for Windows Version 4.0
33 <210> SEQ ID NO: 1
34 <211> LENGTH: 298
35 <212> TYPE: DNA
36 <213> ORGANISM: Homo sapiens
38 <400> SEQUENCE: 1
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40 cttcgtgggg ctatcttttg ttttctctgt agtctctttg gtgatctcat ctgcttttct 120
41 gctcgagtga tgacagcctt gaaccttgtc cttccttgtc tcagagggga aaaaggaatt 180
42 ggatttcctc agggtctggg gcctgggctg tggcttgagg ttccgagact gatgaatcca 240
43 agcatgcttg agggcctggt ccggggtcat gcgaagagaa ggttcccata ccaaacac   298
45 <210> SEQ ID NO: 2
46 <211> LENGTH: 276
47 <212> TYPE: DNA
48 <213> ORGANISM: Homo sapiens
50 <400> SEQUENCE: 2
51 tggaaggtgt ggtgactaag ggccacggtt attgggtgaa atttgagatt gtaggccaac  60
52 tgtattttca agcttctgaa cttaggcaaa atattcatcg caaagtctct agcgtcatat 120
53 ttttctcacc taaattacgt ttccacgaga ttatttatat atagttggtc tatctctgca 180
54 gtccttgaag gtgaagttgt gtgttactag gctgtgtttt gggatgtcag cagtggcctg 240
55 aagtgagttg tgcaataaat gttaagttga aacctc                           276
57 <210> SEQ ID NO: 3
58 <211> LENGTH: 405
59 <212> TYPE: DNA
60 <213> ORGANISM: Homo sapiens
62 <220> FEATURE:
63 <221> NAME/KEY: misc_feature
64 <222> LOCATION: 141
65 <223> OTHER INFORMATION: n = A,T,C or G
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RAW SEQUENCE LISTING   DATE: 12/19/2001
PATENT APPLICATION: US/10/010,742   TIME: 10:34:41

Input Set : **A:\491c7.app.txt**
Output Set: **N:\CRF3\12192001\J010742.raw**

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 67 <400> SEQUENCE: 3
 68 tcacatggct atttcattta tttagtagtt ttgaaatgtt agcaaatata aggtatttgt 60
 69 aaagcatctt tcattataaa gagattagta atattcacca atcatgccaa tgagattata 120
 70 cactctgcca aagactacta naaaaatttg atcattatta aattcaatgt tatttgacag 180
 71 tgtgaactct atgtaacagc acaaattctg gactttgaat ctggctgctg tcctcacctg 240
 72 aaccattaaa atgaccttgt taacaaggaa ggaatcaatg gggaaatatc acaaccagag 300
 73 attggctgtg tgtccaaggg tgctttgtct tgttgccagg atcagactgt gaaatcacag 360
 74 aggcaagctg atgtcatcag aggtgactct gcccccaaca caatg                 405
 76 <210> SEQ ID NO: 4
 77 <211> LENGTH: 696
 78 <212> TYPE: DNA
 79 <213> ORGANISM: Homo sapiens
 81 <400> SEQUENCE: 4
 82 cattgtgttg ggcactgtta cagtgaaacg gaaacgtgga aaatcacagc caaactgtgc 60
 83 tctgaaagaa cactctatgt ctaatatagc cagcgtcaag agtccttatg aggcggagaa 120
 84 ctccggggaa gagctggatc agaggtattc caaggccaag ccaatgtgta acacatgtgg 180
 85 gaaagtgttt tcagaagcca gcagtttgag aaggcacatg agaatacata aaggagtcaa 240
 86 accttacgtc tgccacttat gtggaaaggc atttacccaa tgtaaccagc tgaaaacgca 300
 87 tgtaagaact catacaggtg agaagccata caaatgtgaa ttgtgtgata aggatttgc 360
 88 tcagaaatgt cagctagtct tccatagtcg catgcatcat ggtgaagaaa aaccctataa 420
 89 atgtgatgta tgcaacttac agtttgcaac ttctagcaat ctcaagattc atgcaaggaa 480
 90 gcatagtgga gagaagccat atgtctgtga taggtgtgga cagagatttg ctcaagccag 540
 91 cacactgacc tatcatgtcc gtaggcatac tggagaaaag ccttatgtat gtgatacctg 600
 92 tgggaaggca tttgctgtct ctagttctct tatcactcat tctcgaaaac atacaggtaa 660
 93 gtttgacagg gagagactgc ttaaaataaa gttata                          696
 95 <210> SEQ ID NO: 5
 96 <211> LENGTH: 580
 97 <212> TYPE: DNA
 98 <213> ORGANISM: Homo sapiens
100 <220> FEATURE:
101 <221> NAME/KEY: misc_feature
102 <222> LOCATION: 332
103 <223> OTHER INFORMATION: n = A,T,C or G
105 <400> SEQUENCE: 5
106 acatcaaaaa ggaaatattt ttgacttgct tttcttctgt aaatcctccc atctcactaa 60
107 tatttacaac aatccagagt agcgtttatg agacactgaa aaagacaggg aggaaatcct 120
108 ttttcaagat atgaagtcag aacctgaatg tagacatcgg acagagaagt cctcaaccac 180
109 aaacctgtcc tccagctcta gagagagtaa ggctgtattt ccaaccttga gatttttcat 240
110 tacattttcc cctttttggg tgttaaattc tttccaagaa tgctgtactt gtaaaaatga 300
111 ttttattcta gctacaaaac atttcattta anaaaaccgc attttatatc cttgtgtgaa 360
112 atgctcccaa aagccatcaa gatatggaga caacagattt taaaaacata aatctaatca 420
113 tatgggcttg aaacagtatg aacatttaac agagtgacac gatatcatta ttatatttgt 480
114 ttgtcatgag atgaaaggcc tggaggcaga tggtgattaa tcataattcc tgagcttcta 540
115 cagaaatttt aaaatgaaat tactaactgc ttaaaattat                      580
117 <210> SEQ ID NO: 6
118 <211> LENGTH: 557
119 <212> TYPE: DNA
120 <213> ORGANISM: Homo sapiens
122 <400> SEQUENCE: 6
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123 attacattca agataaaaga tttattcaca ccacaaaaag ataatcacaa caaaatatac 60
124 actaacttaa aaaacaaaag attatagtga cataaaatgt tatattctct ttttaagtgg 120
125 gtaaaagtat tttgtttgct tctacataaa tttctattca tgagagaata acaaatatta 180
126 aaatacagtg atagtttgca tttcttctat agaatgaaca tagacataac cctgaagctt 240
127 ttagtttaca gggagtttcc atgaagccac aaactaaact aattatcaaa cacattagtt 300
128 atttccagac tcaaatagat acacattcaa ccaataaact gagaaagaag catttcatgt 360
129 tctctttcat tttgctataa agcatttttt cttttgacta aatgcaaagt gagaaattgt 420
130 attttttctc cttttaattg acctcagaag atgcactatc taattcatga gaaatacgaa 480
131 atttcaggtg tttatcttct tccttacttt tggggtctac aaccagcata tcttcatggc 540
132 tgtgaaattc atggctg                                                557
134 <210> SEQ ID NO: 7
135 <211> LENGTH: 653
136 <212> TYPE: DNA
137 <213> ORGANISM: Homo sapiens
139 <400> SEQUENCE: 7
140 cattgtgttg ggggaagtag ggaatattat tgaggcaggg taagaaatgg tttacaattc 60
141 tgaaaggatg atcaaagaaa aactcattgt tgagaaagta atatgagtag agacctgaaa 120
142 taagtgaggg agtgacgggt tatgtccagg gcaataatgt ttctgacaga ggggagagtc 180
143 atttcagaag cctagaggca tgtgtaaagc tgttagaatg ccagacagtc accaggccaa 240
144 gatgtgcaga tatccataag tgaaggggaa agaaatacaa aatgaaggca gagaaatcac 300
145 aaaattggat aagtggtgcc ttgtaggcca tgatgatttt agttcatact aaaattgagt 360
146 taggctgcca ttgtagggtt tgtgagctca gggataacat ggtctgaatt ttatttctaa 420
147 aaggatcact ccaagtgtta cattgcaaag aataacgtaa ggtggctggt gtagtagact 480
148 aaagtggaat atagtaacag tgaaatacat tttgtggtaa agcttggtag atttgaccac 540
149 acaaaattgt gaaattacct gtggcacaaa aaatatcaaa ggtacataca gacagaagaa 600
150 ccttgcgatt gttttattaat gtccttaatt tataatgtta ataccagtag aag        653
152 <210> SEQ ID NO: 8
153 <211> LENGTH: 456
154 <212> TYPE: DNA
155 <213> ORGANISM: Homo sapiens
157 <400> SEQUENCE: 8
158 cattgtgttg ggctaatcct tggtctctat ccaccctgcc tagcaattta tctcaaagct 60
159 tcaagttcct gccatctaca tgtgcccagg tcaaccaatc aatggctcag acagataagc 120
160 caacatgcat cccgccggag ctgccgaaaa tgctgaagga gtttgccaaa gccgccattc 180
161 gggcgcagcc gcaggacctc atccagtggg gggccgatta ttttgaggcc ctgtcccgtg 240
162 gagagacgcc tccggtgaga gagcggtctg agcgagtcgc tttgtgtaac tgggcagagc 300
163 taacacctga gctgttaaag atcctgcatt ctcaggttgc tggcagactg atcatccgtg 360
164 cagaggagct ggcccagatg tggaaagtgg tgaatctccc aacagatctg tttaatagtg 420
165 tgatgaatgt gggtcgcttc acggaggaga tcgagt                            456
167 <210> SEQ ID NO: 9
168 <211> LENGTH: 512
169 <212> TYPE: DNA
170 <213> ORGANISM: Homo sapiens
172 <400> SEQUENCE: 9
173 gtttttgatt cattttattt taacaatgtt taacaatgta agtccacata taagataccc 60
174 aagctttaaa tatctataca tataaactga tttcaacatc tttggcttca aaacagtaaa 120
175 attgtttttc caatatcaaa caagtcaaat ttggaaaagg cataaatctg tatgaacatc 180
176 ctgtatccat ggagatgtca tgactaaatt cagaaatagc ctcatctctc tttgtttttg 240
177 ctttcttatg tctgagttct gcatccaatt ctgtttatta catagttttc tataagattg 300
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RAW SEQUENCE LISTING   DATE: 12/19/2001
PATENT APPLICATION: US/10/010,742   TIME: 10:34:41

Input Set : A:\491c7.app.txt
Output Set: N:\CRF3\12192001\J010742.raw

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178 tacccctttt aaacagtgtc tattgatata tattctaggt gtctggaagt cttttttctat 360
179 agtcggctct tggttgtctc tgggaatatg aatggaagga gcagagtgaa aataaatctg 420
180 agggcaatat tcataaataa tccaagagct acactgtagt caactctccc cagagcctga 480
181 ccacagtgtt tccctctctc ctcctcccaa cc                                512
183 <210> SEQ ID NO: 10
184 <211> LENGTH: 308
185 <212> TYPE: DNA
186 <213> ORGANISM: Homo sapiens
188 <220> FEATURE:
189 <221> NAME/KEY: misc_feature
190 <222> LOCATION: 214, 276
191 <223> OTHER INFORMATION: n = A,T,C or G
193 <400> SEQUENCE: 10
194 atgtttatga agacctttaa atatttatat agaaacaaaa tgtcattgca acctaacatc 60
195 atccattaaa aataaaagga aaggaaaacg gcagggaaaa gtgcagtaat aacaaatggt 120
196 gacatgcttg gtcttaagca tcatagcaaa ctcattattt ccaatgaaac aaggattttt 180
197 agacccatct ttggaaatga ttcccaaatt aganaaccat caggtctcaa aaaaggaagg 240
198 gtcatcaaag tccatccagc ccagccaccc tgaggngcct gtatctcctc aacaagccca 300
199 acacaatg                                                           308
201 <210> SEQ ID NO: 11
202 <211> LENGTH: 510
203 <212> TYPE: DNA
204 <213> ORGANISM: Homo sapiens
206 <220> FEATURE:
207 <221> NAME/KEY: misc_feature
208 <222> LOCATION: 98, 327
209 <223> OTHER INFORMATION: n = A,T,C or G
211 <400> SEQUENCE: 11
212 attatatgaa tattttaatg caaaatgctt aacacttaaa attagcaaag cgtcatttaa 60
213 attaaaattc catttaacta aagatggtta accccaanaa attgtacagt agttgatttc 120
214 tgctatataa tgccagtcct atgccataca ataagaactg caacattagc tgtcacttcc 180
215 tccattgctc ttctggaccc taagggatga gggaggggac tcagacacaa aacacaaccc 240
216 aaataaactg tgcagtgatt cctaatagtt ataaacccaa tctaagttgt ccaaacagct 300
217 gaagaataac tgcaggtatt gttccanagc tgatacgagg ttttgctttt acagcctggt 360
218 aaaagttctg cactaggtga gaagtcacag tttaaggatg catgttctgt aaatagttac 420
219 tacatataca catttactgt ctgtaaacac tagaaatata cattagacag agtaccctca 480
220 caagttgggt acagtttaaa aaagaagatg                                    510
222 <210> SEQ ID NO: 12
223 <211> LENGTH: 611
224 <212> TYPE: DNA
225 <213> ORGANISM: Homo sapiens
227 <220> FEATURE:
228 <221> NAME/KEY: misc_feature
229 <222> LOCATION: 196
230 <223> OTHER INFORMATION: n = A,T,C or G
232 <400> SEQUENCE: 12
233 agttttataa aatattttat ttacagtaga gctttacaaa aatagtctta aattaataca 60
234 aatccctttt gcaatataac ttatatgact atcttctcaa aaacgtgaca ttcgattata 120
235 acacataaac tacatttata gttgttaagt caccttgtag tataaatatg ttttcatctt 180
```

W-|->197
N-|->198
W--> 213
W-> 217

RAW SEQUENCE LISTING   DATE: 12/19/2001
PATENT APPLICATION: US/10/010,742   TIME: 10:34:41

          Input Set : A:\491c7.app.txt
          Output Set: N:\CRF3\12192001\J010742.raw

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236 tttttgtaa taaggnacat accaataaca atgaacaatg gacaacaaat cttattttgt 240
237 tattcttcca atgtaaaatt catctctggc caaaacaaaa ttaaccaaag aaaagtaaaa 300
238 caattgtccc tctgttcaac aatacagtcc tttttaatta tttgagagtt tatctgacag 360
239 agacacagca ttaaactgaa agcaccatgg cataaagtct agtaacatta tcctcaaaag 420
240 cttttttccaa tgtctttcct tcaactgttt attcagtatt tggccagtac aaataaagat 480
241 tggtctcaac tctctctttc attagtctca agtgttccta ttatgcactg agttttcaga 540
242 ccttcccaac tggcatgtgt tttaagtgtg agtttctttc tttggcttca agtggagttt 600
243 cacaacattt a                                                      611
245 <210> SEQ ID NO: 13
246 <211> LENGTH: 394
247 <212> TYPE: DNA
248 <213> ORGANISM: Homo sapiens
250 <220> FEATURE:
251 <221> NAME/KEY: misc_feature
252 <222> LOCATION: 62, 91, 105, 195, 294
253 <223> OTHER INFORMATION: n = A,T,C or G
255 <400> SEQUENCE: 13
256 caatgtttag attcatttta ttagtggcat atacaaagca ccatataata tatgaaacgt 60
257 anaacaatca tgactatgta attaactgta naaataactg ctaanaaaat atagcaatat 120
258 ttaacacagg atttctaaaa ccattatatt ttcattactt ttcccaaagc taatgtccca 180
259 tgttttattt tatanacttt gtttatcaag atttatatgc atttggcacc ttttggggct 240
260 gaaaatagtt gatgtactct gtacagtaat gttacagttt tatacaaaat tcanaaatat 300
261 tgcatttgga atagtcttta tggtcctctt ccaagtattc agtttcacac aacagcaaac 360
262 actctgaatg cctttcctcc tgcccaacac aatg                              394
264 <210> SEQ ID NO: 14
265 <211> LENGTH: 361
266 <212> TYPE: DNA
267 <213> ORGANISM: Homo sapiens
269 <220> FEATURE:
270 <221> NAME/KEY: misc_feature
271 <222> LOCATION: 7, 249, 258
272 <223> OTHER INFORMATION: n = A,T,C or G
274 <400> SEQUENCE: 14
275 agcaggnact ataattttat aattaatttt acaattcatg tagcaaatgg aaaatcatac 60
276 agagaggcca atgtatataa ataagagttt atacagaaac tgccaattca caaaacagca 120
277 ctgcatggtt tctatattgc aagcacaaga catggtcaca tggttccact gtacaggtag 180
278 aaacaagccc acagacaata catagagtac cacctgaaac gaggcccttg gagctgctca 240
279 gcttcttana aaataganaa ctttcaatgg tcataataca ttttgattca aaatgtcttc 300
280 taaaatgttt tcattgtggg agaaaattaa gaagggggcaa aaatccatct atggaacttc 360
281 t                                                                 361
283 <210> SEQ ID NO: 15
284 <211> LENGTH: 537
285 <212> TYPE: DNA
286 <213> ORGANISM: Homo sapiens
288 <220> FEATURE:
289 <221> NAME/KEY: misc_feature
290 <222> LOCATION: 460
291 <223> OTHER INFORMATION: n = A,T,C or G
293 <400> SEQUENCE: 15
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Use of n and/or Xaa has been detected in the Sequence Listing.
Review the Sequence Listing to insure a corresponding
explanation is presented in the <220> to <223> fields of
each sequence using n or Xaa.

VERIFICATION SUMMARY   DATE: 12/19/2001
PATENT APPLICATION: US/10/010,742   TIME: 10:34:42

Input Set : **A:\491c7.app.txt**
Output Set: **N:\CRF3\12192001\J010742.raw**

```
L:26 M:270 C: Current Application Number differs, Wrong Format
L:70 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:111 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:197 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:198 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:213 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:217 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:236 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:257 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:259 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:260 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:275 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:279 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:301 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:315 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:322 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:475 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27
L:511 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29
L:552 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31
L:596 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33
L:600 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33
L:601 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33
L:605 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33
L:880 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42
L:906 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43
L:930 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44
L:931 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44
L:950 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45
L:963 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46
L:969 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46
L:983 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:47
L:1040 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:50
L:1041 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:50
L:1088 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:53
L:1090 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:53
L:1132 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:56
L:1133 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:56
L:1134 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:56
L:1147 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:57
L:1154 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:57
L:1167 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:58
L:1173 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:58
L:1188 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:59
L:1189 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:59
L:1190 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:59
L:1191 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:59
L:1204 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60
L:1223 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61
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VERIFICATION SUMMARY   DATE: 12/19/2001
PATENT APPLICATION: **US/10/010,742**   TIME: 10:34:42

Input Set : **A:\491c7.app.txt**
Output Set: **N:\CRF3\12192001\J010742.raw**

L:1224 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61
L:1225 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61
L:1227 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61